Corps
of Engineers
Rock Island District

Defense Environmental Restoration Program
for
Formerly Used Defense Sites
Ordnance and Explosive

Archives Search Report

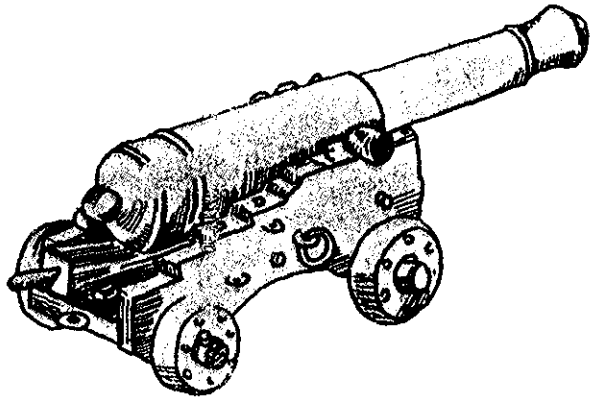
Conclusions and Recommendations

for the former

FORT RALPH - NAUSHON ISLAND

GOSNOLD, MASSACHUSETTS
PROJECT NUMBER D01MA056801

February 1997



DEFENSE ENVIRONMENTAL RESTORATION PROGRAM
for
FORMERLY USED DEFENSE SITES

Conclusions and Recommendations

ORDNANCE AND EXPLOSIVE ARCHIVES SEARCH REPORT FOR FORT RALPH - NAUSHON ISLAND GOSNOLD, MASSACHUSETTS PROJECT NUMBER D01MA056801

February 1997

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ORDNANCE AND EXPLOSIVE ARCHIVES SEARCH REPORT FOR FORT RALPH - NAUSHON ISLAND GOSNOLD, MASSACHUSETTS PROJECT NUMBER D01MA056801

ACKNOWLEDGMENT

The following persons provided support as indicated.

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GOSNOLD, MASSACHUSETTS
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The following conclusions and recommendations are provided by the Archives Search Report Team. These recommendations may not be the actions taken to remediate this site.

CONCLUSIONS AND RECOMMENDATIONS

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ARCHIVES SEARCH REPORT
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1. INTRODUCTION

a. **Subject and Purpose**

(1) This report presents the conclusions and recommendations of a historical records search and site inspection for the presence of ordnance and explosive (OE) located at Fort Ralph - Naushon Island, Gosnold, Massachusetts (See plate 1 for general location map). The investigation was performed under the authority of the Defense Environmental Restoration Program for Formerly Used Defense Sites (DERP FUDS).

(2) The investigation focused on 2 acres that were identified as fortifications. The site was used as a coastal defense site 1775 to 1778.

(3) The purpose of this investigation was to characterize the site for potential OE presence, to include conventional ammunition and chemical warfare material (CWM). The investigation was conducted by experienced ordnance experts through thorough evaluation of historical records, interviews, and on-site visual inspection results.

b. **Scope**

(1) This report presents the site history, site description, real estate ownership information, and confirmed ordnance presence (prior to and after site closure), based on available records, interviews, site inspections, and analyses. The analyses provide a complete evaluation of all information to assess current day potential ordnance contamination, where actual ordnance presence has not been confirmed.

(2) For the purpose of this report, OE presence consists of live ammunition, ammunition components, CWM or explosives which have been lost, abandoned, discarded, buried, fired, or thrown from demolition pits or burning pads. These items were either manufactured, purchased, stored, used, and/or disposed of by the War Department/Department of Defense. Such ammunition/components are no longer under accountable record control of any DOD organization or activity.

(3) **Expended** small arms ammunition (caliber .50 or smaller) is **not** considered OE. OE further includes "explosive soil" which refers to any mixture in soil, sands, clays, etc., such that the mixture itself is explosive. Generally, 10 percent or more by weight of secondary explosives in a soil mixture is considered explosive soil.

2. CONCLUSIONS

a. **Summary of Conclusions**

Table 2-1, on the following page, has been provided to summarize conclusions made on confirmed, potential and no OE within Fort Ralph - Naushon Island.

b. **Historical Site Summary**

(1) In 1775, the British landed armed parties on Naushon Island at Tarpaulin Cove. The British seized livestock without compensation, destroyed private property and generally mistreated the inhabitants of Naushon Island. To prevent future raids, a militia company was stationed at Tarpaulin Cove.

(2) The militia, using small arms, was generally able to prevent the British from landing at the cove. However, the British warships often retaliated by firing artillery at the militia. British transports also used the shelter of the cove. In response, at least two artillery pieces, nine pounders, were emplaced by the Americans at the cove.

TABLE 2-1
SUMMARY OF CONCLUSIONS

Area	Former Usage	Present Usage	Probable End Usage	Size Acres 1/	FUDS ELIGIBILITY: Confirmed FUDS	FUDS ELIGIBILITY: Potential FUDS	ORDNANCE PRESENCE: Confirmed Ordnance Presence	ORDNANCE PRESENCE: Potential Ordnance Presence	ORDNANCE PRESENCE: Uncontaminated	Risk Assessment Code
A	Unnamed Fort	Woods	Same	1	yes	-	-	-	yes	5
B	Fort Ralph	Private Beach	Same	1	yes	-	-	-	yes	5

1/ Indicates approximate acreage

(3) The militiamen's term of duty began to expire in May 1778 and they were suffering from an outbreak of small pox. Due to British activities at Falmouth on the mainland, additional replacements were not available. The fort was abandoned and the cannons were left in the fort. A British raid in May 1778 resulted in the destruction of the artillery.

(4) Some naval activity occurred in Tarpaulin Cove during the remainder of the Revolutionary War and during the War of 1812. This activity was strictly ship to ship combat and did not effect the land mass.

c. **Site Eligibility**

(1) Former land usage by the militia, a precursor to the War Department and the Department of Defense, was confirmed for the site as summarized in section 3a of this report. The approximately 2 acre site was used as a coast artillery site during the Revolutionary War.

(2) By 1778, all acreage that had been used by the militia was relinquished. Today, no ownership of any part of the former fortifications remains with the Department of Defense (See plate 2).

d. ***Visual Site Inspection***

(1) Site inspection was conducted 17 October 1996. During this inspection, no OE was observed.

(2) Interviews were conducted with local residents, police officers, state officials, and county officials. In that this is a Revolutionary War site, efforts to locate individuals who had served or had first hand knowledge of Fort Ralph when it was used by the military were not considered. The superintendent of Naushon Island was interviewed by the assessment team. He had lived and worked on the island for the past twenty years. Other than providing the team with the exact location of the fortifications, he had no additional information concerning the site.

e. **Confirmed Ordnance Subsites**

(1) Confirmed ordnance and explosives (OE) presence is based on verifiable historical record evidence or direct witness of OE items (with explosive components and/or inert debris/fragments) since site closure. Additional field data is not needed to identify a confirmed site.

(2) Verifiable historical record evidence is based on OE items actually seen on site since site closure and authenticated by: historical records (Archive Records, Preliminary Assessment Reports, Site Investigation Reports), local fire departments and law enforcement agencies/bombs squads, military Explosive Ordnance Disposal (EOD) Units, newspaper articles, photographs, or maps.

(3) Direct witness of OE items consists of the site inspection team(s) and other credible witnesses as determined by the ASR Research Team Leader (landowners, workers on-site, soldiers who served there, etc.) verifying that they have seen OE presence on the surface or subsurface since site closure.

(4) No area was determined to have **confirmed** OE presence.

f. **Potential Ordnance Subsites**

(1) Potential ordnance and explosives (OE) presence is based on a lack of confirmed OE presence. Potential OE presence is inferred from records, present day site features, non-verifiable direct witness, or indirect witness. Additional field data is needed to confirm potential OE sites.

(2) Inference from historical records is based on no OE items actually seen on site since site closure and would include documentation (records, aerial photographs, maps) indicating possible OE presence derived from common practice in production, storage, use, or disposal at that time and from records indicating known OE usage.

(3) Inference from present day site features would be the indication of possible OE presence from such obvious features as target circles, depressions, mounds/backstops,

OB/OD areas/pits, etc. Indirect witness would be people who have stated that they have heard of OE presence on-site (hear-say evidence).

(4) No area was determined to have **potential** OE presence.

g. **Uncontaminated Ordnance Subsites**

Uncontaminated ordnance areas are based on a lack of confirmed or potential ordnance presence. All areas of this site are considered **uncontaminated**. The Risk Assessment and Table 2-1 are based on this premise.

h. **Other Environmental Hazards**

There are no other known environmental hazards at Fort Ralph - Naushon Island.

3. RECOMMENDATIONS

a. **Summary of Recommendations**

Table 3-1 on the following page includes an overall summary of the site recommendations. Explanations are included in subsequent paragraphs.

b. **Preliminary Assessment Actions**

The Preliminary Assessment of the Former Fort Ralph - Naushon Island, and Finding and Determination of Eligibility (FDE) accurately described the 2 acres that was used by the Militia.

c. **Ordnance and Explosive Actions**

All areas of this site are uncontaminated. Recommend no further actions (NOFA) for this site.

d. **Other Environmental Remediation Actions**

No other environmental remediation actions will be required at this time.

TABLE 3-1
SUMMARY OF RECOMMENDATIONS

Area	Former Usage	Size Acres 1/	PA Actions	OE Actions			HTRW Actions	BD/DR Actions
			Prepare INPR	No Further Action	Implement Interim Removal	Perform EE/CA	Perform SI	Perform SI
A	Unnamed Fort	1	-	yes	-	-	-	-
B	Fort Ralph	1	-	yes	-	-	-	-

1/ Acreages are approximate only

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ORDNANCE AND EXPLOSIVE
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ATTACHMENTS

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RISK ASSESSMENT PROCEDURES FOR ORDNANCE AND EXPLOSIVES (OE) SITES

Site Name	Ft. Ralph-Naushon Island	Rater's Name	George Ofslager
Site Location	Gosnold, MA	Phone No.	309-794-6024
DERP Project #	D01MA056801	Organization	CENCR-ED-DO
Date Completed	27 January 1997	RAC Score	5
Date Revised			

OE RISK ASSESSMENT: Entire Site

This risk assessment procedure was developed in accordance with MIL-STD 882C and AR 385-10. The RAC score will be used by CEHND to prioritize the remedial action at Formerly Used Defense Sites. The OE risk assessment should be based upon best available information resulting from records searches, reports of Explosive Ordnance Disposal (EOD) detachment actions, and field observations, interviews, and measurements. This information is used to assess the risk involved based upon the potential OE hazards identified at the site. The risk assessment is composed of two factors, **hazard severity and hazard probability**. Personnel involved in visits to potential OE sites should view the CEHND videotape entitled "A Life Threatening Encounter: OE."

Part 1. Hazard Severity. Hazard severity categories are defined to provide a qualitative measure of the worst credible mishap resulting from personnel exposure to various types and quantities of unexploded ordnance items.

TYPES OF ORDNANCE
(Circle all values that apply)

A. Conventional Ordnance and Ammunition	VALUE
Medium/Large Caliber (20 mm and larger)	10
Bombs, Explosive	10
Grenades, Hand and Rifle, Explosive	10
Landmines, Explosive	10
Rockets, Guided Missiles, Explosive	10
Detonators, Blasting Caps, Fuzes, Boosters, Bursters	6
Bombs, Practice (w/spotting charges)	6
Grenades, Practice (w/spotting charges)	6
Landmines, Practice (w/spotting charges)	4
Small Arms, Complete round (.22 cal-.50 cal)	1
Small Arms, Expended	0
Conventional Ordnance and Ammunition (Select the largest single value)	0

What evidence do you have regarding conventional OE? None. Forts were abandoned in 1778. Guns fired solid projectiles only.

B. Pyrotechnics. (For munitions not described above)

	VALUE
Munition (Container) Containing White Phosphorous or other Pyrophoric Material (i.e., Spontaneously Flammable)	10
Munition Containing a Flame or Incendiary Material (i.e. Napalm, Triethlaluminum Metal Incendiaries)	6
Flares, Signals, Simulators, Screening Smoke (other than WP)	4
Pyrotechnics (Select the largest single value)	0

What evidence do you have regarding pyrotechnics? None.

C. Bulk High Explosives (Not an integral part of convention ordnance; uncontainerized.)

	VALUE
Primary or Initiating Explosive (Lead Styphnate, Lead Azide, Nitroglycerin, Mercury Azide, Mercury Fulminate, Tetracene, etc.)	10
Demolition Charges	10
Secondary Explosives (PETN, Composition A, B, C, Tetryl, TNT, RDX, HMX, HBX, Black Powder, etc).	8
Military Dynamite	6
Less Sensitive Explosives (Ammonium Nitrate, Explosive D, etc).	3
High Explosives (Select the largest single value)	0

What evidence do you have regarding bulk explosives? None.

D. Bulk Propellants (Not an integral part of rockets, guided missiles, or other conventional ordnance; uncontainerized)

	VALUE
Solid or Liquid Propellants	6
Propellants	0

What evidence do you have regarding propellants? None.

A

E. Chemical Warfare Material and Radiological Weapons

	VALUE
Toxic Chemical Agents (Choking, Nerve, Blood, Blister)	25
War Gas Identification Sets	20
Radiological	15
Riot Control and Miscellaneous (Vomiting, Tear)	5

Chemical and Radiological (Select the largest single value) 0

What evidence do you have of chemical/radiological OE? None.

TOTAL HAZARD SEVERITY VALUE 0
(Sum of Largest Values for A through E--Maximum of 61).
Apply this value to Table 1 to determine Hazard Severity Category.

TABLE 1

HAZARD SEVERITY*

Description	Category	Hazard Severity Value
CATASTROPHIC	I	21 and greater
CRITICAL	II	10 to 20
MARGINAL	III	5 to 9
NEGLIGIBLE	(IV)	1 to 4
**NONE		(0)

*** Apply Hazard Severity Category to Table 3.**

** If Hazard Severity Value is 0, you do not need to complete Part II. Proceed to Part III and use a RAC score of 5 to determine your appropriate action.

Part III. Risk Assessment. The risk assessment value for this site is determined using the following Table 3. Enter with the results of the hazard probability and hazard severity values.

TABLE 3

Probability Level		FREQUENT A	PROBABLE B	OCCASIONAL C	REMOTE D	IMPROBABLE E
Severity Category:						
CATASTROPHIC	I	1	1	2	3	4
CRITICAL	II	1	2	3	4	5
MARGINAL	III	2	3	4	4	5
NEGLIGIBLE	IV	3	4	4	5	5

RISK ASSESSMENT CODE (RAC)

RAC 1 Expedite INPR, recommending further action by CEHND - Immediately call *CEHND-OE-ES - commercial (205) 895-1582 or DSN 645-1582.*

RAC 2 High priority on completion of INPR - Recommend further action by CEHND.

RAC 3 Complete INPR - Recommend futher action by CEHND.

RAC 4 Complete INPR - Recommend futher action by CEHND.

RAC 5 Usually indicates that no further action (NOFA) is necessary. Submit NOFA and RAC to CEHND.

Part IV. Narrative. Summarize the documented evidence that support this risk assessment. If no documented evidence was available, explain all the assumptions that you made.

This site was a Revolutionary War coastal defense site. The guns that were emplaced at the site fired solid projectiles only. In May 1778, the fort was abandoned and the guns were seized by the British.
Recommend no further action(NOFA) for this site.

A

ORDNANCE AND EXPLOSIVE
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REPORT PLATES

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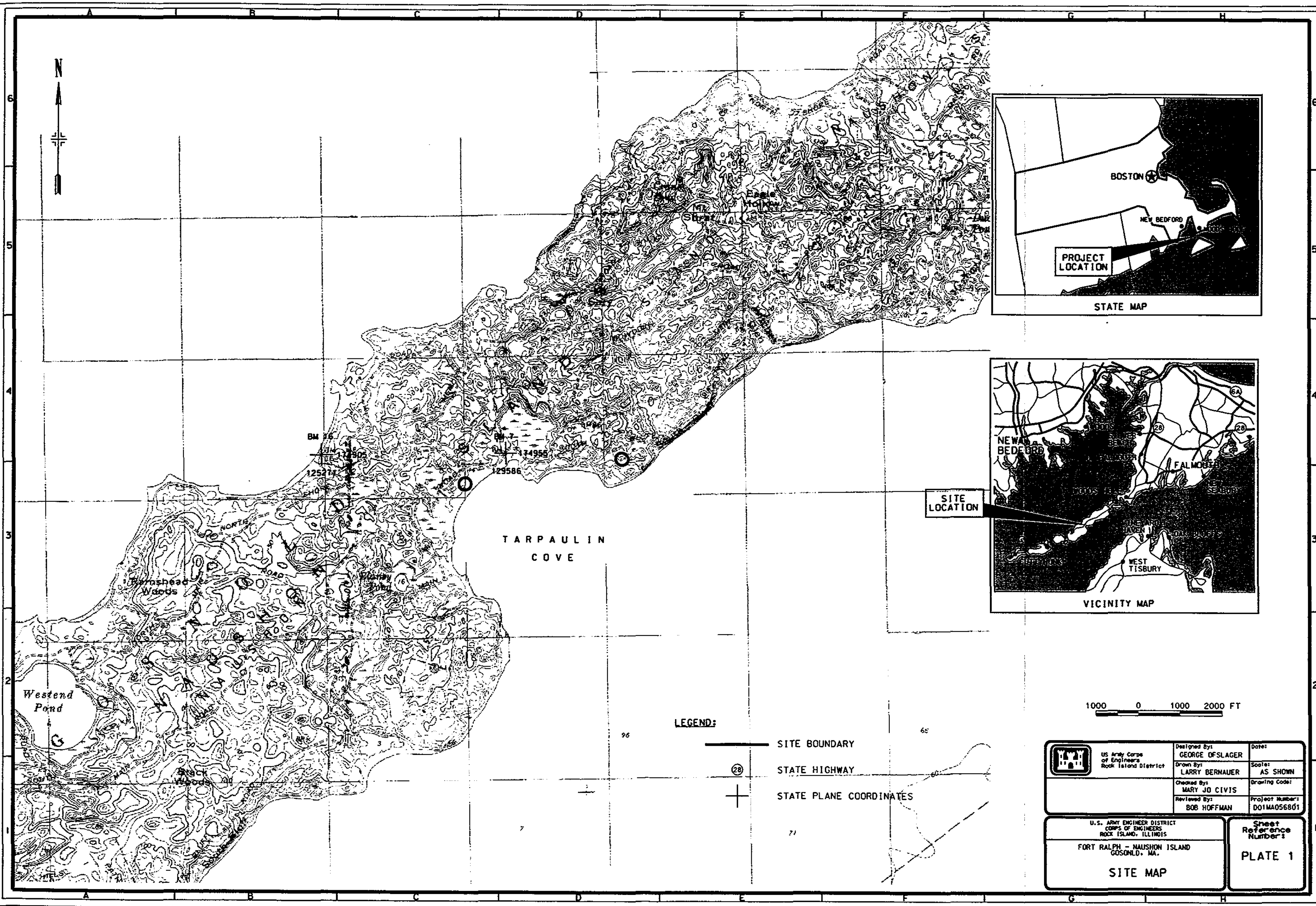
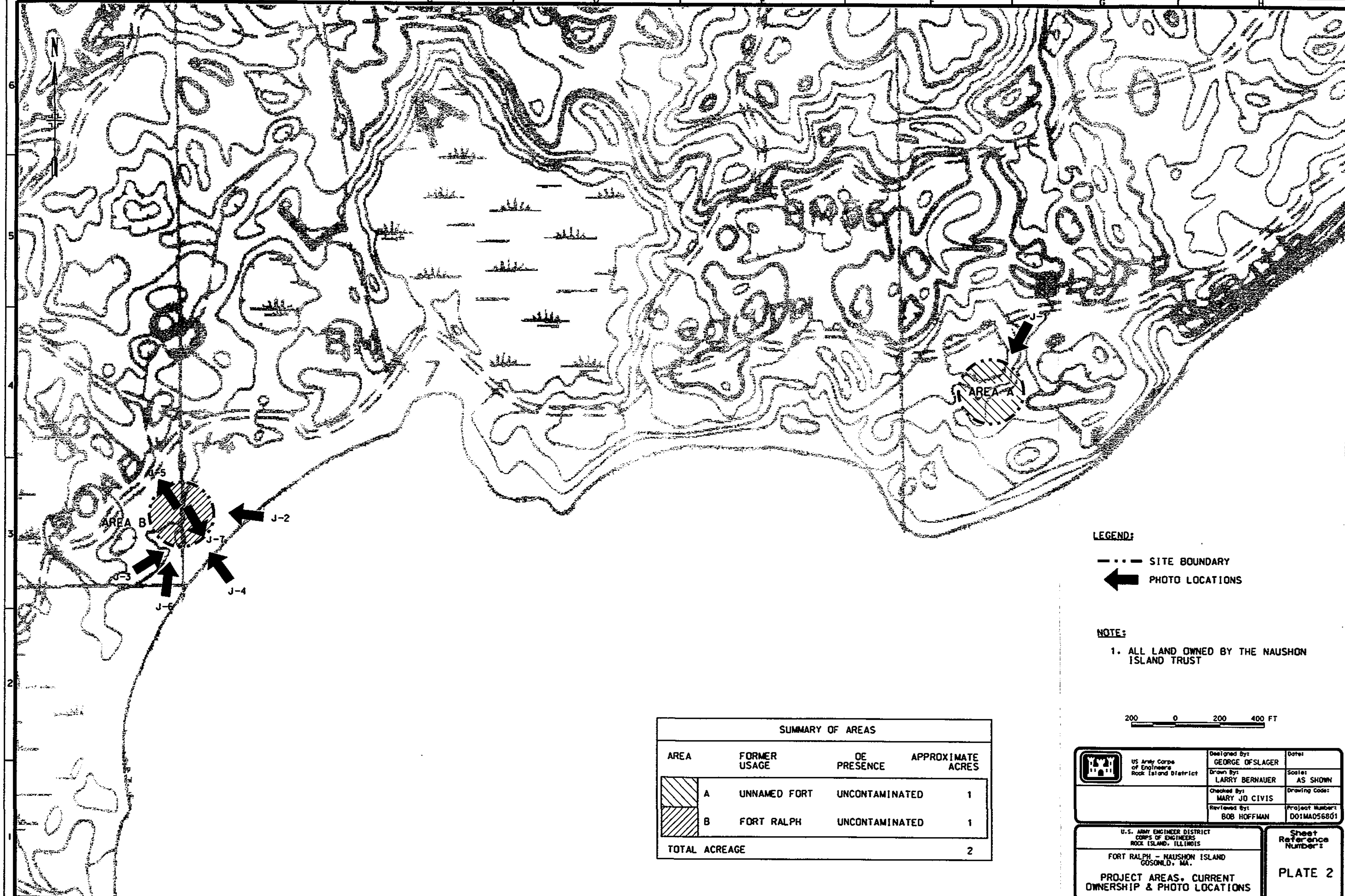


N
Westend Pond
Ramshead Woods
Black Woods
TARPAULIN COVE
BM 16
174905
125274
BM 7
174955
129586
Mt. Sbrat
Eagle Hollow
NORTH ROAD
STATE MAP
BOSTON
NEW BEDFORD
PROJECT LOCATION
VICINITY MAP
NEW BEDFORD
FALMOUTH
SITE LOCATION
WEST TISBURY
1000 0 1000 2000 FT
LEGEND:
SITE BOUNDARY
28 STATE HIGHWAY
STATE PLANE COORDINATES
US Army Corps of Engineers Rock Island District
Designed By: GEORGE OFSLAGER
Date:
Drawn By: LARRY BERNAUER
Scale: AS SHOWN
Checked By: MARY JO CIVIS
Drawing Code:
Reviewed By: BOB HOFFMAN
Project Number: D01MA056801
U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
ROCK ISLAND, ILLINOIS
FORT RALPH - NAUSHON ISLAND
GOSONLD, MA.
SITE MAP
Sheet Reference Number:
PLATE 1



LEGEND:

— · · — SITE BOUNDARY

PHOTO LOCATIONS

NOTE:

1. ALL LAND OWNED BY THE NAUSHON ISLAND TRUST

SUMMARY OF AREAS

AREA		FORMER USAGE	OE PRESENCE	APPROXIMATE ACRES
(hatch)	A	UNNAMED FORT	UNCONTAMINATED	1
(hatch)	B	FORT RALPH	UNCONTAMINATED	1
TOTAL ACREAGE				2

US Army Corps of Engineers Rock Island District

Designed By: GEORGE OFSLAGER	Date:
Drawn By: LARRY BERNAUER	Scale: AS SHOWN
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U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
ROCK ISLAND, ILLINOIS

FORT RALPH - NAUSHON ISLAND
GOSONLD, MA.

PROJECT AREAS, CURRENT OWNERSHIP & PHOTO LOCATIONS

Sheet Reference Number: PLATE 2